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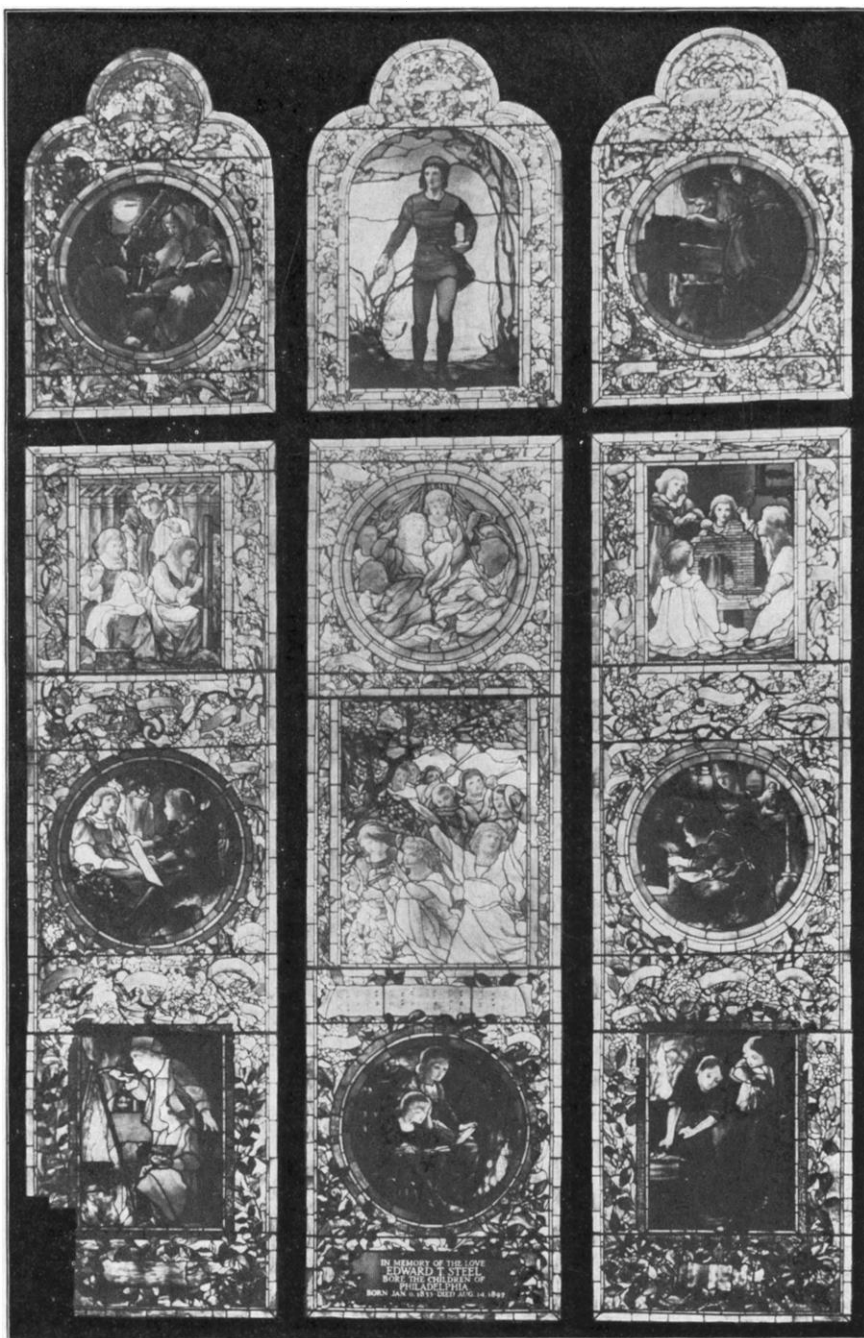
WHOLE
NUMBER 104

THE CENTRAL HIGH SCHOOL OF PHILADELPHIA.

II. THE NEW BUILDINGS.

THE first appropriation for the new buildings was secured from the finance committee of city councils on the evening of November 21, 1892, and the buildings were formally dedicated on November 22, 1902. While this long delay was vexatious, yet it was due, in very large measure, to the legal obstacles which were interposed at almost every stage of the construction. When the site at the southwest corner of Broad and Green streets was selected, at the junction of two of the leading avenues of the city, condemnation proceedings were at once instituted, but not until October 20, 1894, was the corner-stone laid. The main building was completed and occupied by September, 1900, but the annex was only finished in time for the dedication. The total cost of site, buildings, and equipment was \$1,587,043.16, of which \$400,000 was spent for the site alone.

The dimensions of the buildings are as follows: size of lot, 186 feet 5 inches by 395 feet 6 inches; main building, 170 feet by 221 feet 11 inches; annex, 86 feet by 150 feet; height of tower, 137 feet. The buildings were designed and the construction supervised by the architects of the board of public education—Joseph D. Austin, Joseph W. Anshutz, and J. Horace Cook—under the general direction of the committee on property of the board, of which Mr. Paul Kavanagh is chairman. The



THE EDWARD T. STEEL MEMORIAL WINDOW IN THE ASSEMBLY HALL OF THE
CENTRAL HIGH SCHOOL OF PHILADELPHIA, PA.

architecture is of a general Norman type, and the buildings are fireproof throughout, the entire structure being of granite.

The main building, exclusive of the basement and the observatory, contains sixty rooms, of which forty-six are classrooms, six laboratories, two lecture-rooms, a faculty room, two offices, and three storerooms. The basement contains fifteen rooms, of which two are equipped as laboratories. The classrooms are furnished with chairs with desk-arms of a special pattern designed with a particular view to the student's comfort. All of the rooms have richly ornamented steel ceilings, with bright and beautiful colorings. Each room is heated and ventilated by the forced-draught system, operated by huge fans in the basement, which can supply twenty-five cubic feet of fresh air per minute for each student. The temperature is regulated automatically by a thermostat.

The halls are floored with hard rubber tiling, thus deadening sound and insuring against slipping, and are tiled at the sides to a height of 5 feet. The corridors are nearly 16 feet wide, and form a square around the inside of the building, where there is an open court-yard, 80 feet 10 inches by 66 feet 6 inches. All of the class-rooms are between the corridor and the outside. There is therefore ample provision for light and ventilation, and the court-yard is of special use for recreation purposes.

Some of the class-rooms are arranged to accommodate two and three sections, so as to permit the grouping of students to receive the same instruction. The chemical and physical lecture-rooms will each hold 180 students, so as to accommodate all of the sections of the upper classes, and are arranged in the "hippodrome" fashion, so that each student may observe the demonstrations on the tables in the front of the room. They are fitted with a large table, with abundant supplies of water, gas, electric current, and with glass-hoods for the removal of noxious fumes.

As a result of the enthusiasm aroused by the dedication, the alumni and students, under the general direction of a faculty committee, have developed plans for the decoration of the halls and class-rooms. At the entrance corridor stands a cast of the

Venus of Melos (Caproni), the gift of a recent class. Albert Rosenthal, of the seventy-fifth class, presented a series of his own historical engravings and etchings for the decoration of the corridor near to the historical rooms. It is probable that within a few years the wall space in of all the corridors will be used appropriately in this manner.

Of the rooms in the main building, the equipment of several is worthy of special description.

The laboratory of physics is situated on the first floor, and is 32 feet by 54 feet. It has a southerly and westerly exposure, and is one of the lightest rooms in the building. There are five large double tables which will accommodate about fifty students working at the same time. These tables are provided with closets and drawers for convenient storage of the apparatus; the tops are flat and made of solid oak. Gas and water supplies are conveniently located. The ventilation is excellent, and there is also a hood under which fuming acids, etc., may be used.

Among the special apparatus with which this laboratory is equipped may be mentioned the cathetometer, a Waterman calorimeter, a fine photometer, electrical measuring instruments of the most recent types, barometers, and various optical instruments. Six brick piers built up from the ground permit the proper mounting of these instruments. A select library of physical works of reference is accessible to those working in the laboratory.

The work in this department is inspired by the memory that from 1870 to 1880 Edwin J. Houston and Elihu Thomson, two young alumni, and teachers of the school, perfected in the earlier laboratories the series of inventions which have made their names world-famous.

The chemical laboratory is on the second floor, directly above the physical, and has the same dimensions. The tables are large and commodious, and are provided with all modern conveniences for practical work in chemistry—inorganic, organic, and analytical. The tops are of hard oak, kiln-dried, and are 4 feet 6 inches in width. Water, gas, and electric current are amply provided. The equipment of this laboratory includes several fine balances

set upon a brick pier, large gasometers, automatic generators, a combustion furnace, assay furnace, spectroscopes, and many other fine instruments, as well as a complete library of works of reference. Sixty students can work in this laboratory at the same time, although generally a squad of about a dozen is placed under the direction of one instructor.

The mineralogical laboratory is on the third floor, and is modeled after the chemical laboratory. It has forty-eight working places, which are so constructed as to permit of the examining and testing of all kinds of minerals and rocks.

The geological museum contains a fine collection of minerals and rocks, geological models, charts, and pictures. Its library includes all the important publications of the U. S. Geological Survey, and many works of reference.

The two *biological laboratories* are located on the fourth floor, and have been equipped with desks of a special design. The southern room, having the better light, is used for the microscopic work and for the work in general botany, while the northern room is reserved for the elementary work in zoölogy. The equipment is complete, and has been supplemented by a number of specimens, illustrating the principal fibers of plants, etc., received from the Commercial Museum of Philadelphia.

Three northwest corner rooms are devoted to the use of the department of art, in order to insure an abundance of steady north light. They are furnished with drawing tables of a special design, so arranged that the students may work with equal ease and comfort, either standing or sitting. Each room is also provided with an outfit of models, such as geometric solids, familiar objects, etc., used for pictorial drawing. On the walls are frames, containing plates and other material illustrative of the various kinds of work done, as well as a number of pictures and casts for decorative purposes.

The largest room, in which the work of the higher classes is carried on, contains the most and best of the decorative material; there are a series of charts of historic ornament, casts of characteristic sculpture of various periods, a couple of Parthenon frieze panels, the Victory of Samothrake, two Fauns from Pom-

peii, the Assyrian dying lioness, several Renaissance reliefs, bits of Gothic ornament, etc.; and a number of carbon prints and etchings—architectural subjects and reproductions of the work of the world's great painters. A large portable wooden screen contains a lot of casts of ornament, which, with a small collection of bric-a-brac, furnishes material for the more advanced pictorial work. A volunteer sketch class is maintained, which meets on the afternoons of each week after the regular school hours. This room is also used for the lectures to the senior class on the history of art. There is a collection of about 2,500 carefully chosen lantern slides used for illustration, along with the casts and pictures, and a reference library of about 200 volumes, and a number of portfolios of plates.

The astronomical observatory occupies the space of the tower above the fourth floor. It includes seven rooms, a large transit-room, and two equatorial domes, the larger being eighteen feet in diameter. The rooms of the observatory are to serve as computing, historical, photographic, library, clock, concave-grating, and astronomical class-rooms. The new telescope, which has just been installed, has a fifteen-inch lens, while the old telescope has been placed in the smaller dome, to serve for illustrative purposes. While the course in astronomy is of necessity elementary in character, yet the elaborate equipment of this department is justified by the expectation that its work will aid in popularizing the higher sciences with the general public. It is noteworthy that among the alumni of the high school are to be found Charles T. Yerkes, who endowed munificently the observatory of the University of Chicago, and Professor George Davidson, formerly superintendent of the Pacific Coast Survey, who in 1874 was authorized by James Lick to announce that the greatest telescope in the world would be installed on the Sierra Nevada.

The engine-room is located in the western part of the main building. Here are two Naylor "Corliss" engines, one having cylinders 22 inches in diameter, 42 inches stroke, directly connected to a 180 K. W. Siemens-Halske generator, the other having cylinders 16 inches diameter, 36 inches stroke, directly belted

to a 90 K. W. Siemens-Halske generator. Both engines and generators are slow-speed type.

The switchboard controlling the entire lighting and power system for the main building and assembly hall is constructed of polished white Italian marble, and inclosed in a handsome quartered oak frame, placed a sufficient distance from the wall to allow easy access to all the bus-bar work and connections. The board is provided with a full complement of Weston voltmeters, cutters, circuit breakers for power circuits, and Bristol recording gauges. The board is arranged for the use of a storage-battery system.

The wiring system throughout the building is of the most improved character, all wiring being concealed in iron conduits and arranged with separate circuits for rooms and halls. A general experimental circuit has been run throughout the building, with attachment plugs provided in laboratories, for testing plugs, etc. The lighting in the main building is principally by means of chandeliers, controlled by switches at subcenters of distribution. In the annex, the lighting is accomplished mainly by means of incandescent arc lights of the long-burning type.

The main building is connected with the annex by three iron corridors, eight feet in width, connecting each floor of the two structures. The space between the main building and the assembly hall is 58 feet 3 inches by 85 feet, and is utilized in the basement for boiler, engine, and dynamo-rooms.

The basement of the annex contains the coat-rooms and lunch-rooms for the students. Each student has a locker three feet high, secured by a Yale lock of individual pattern.

The first floor of the annex contains on the north side a lecture-room seating three hundred people and equipped with all the appliances for scientific lectures. It is probable that this room will be used for public evening lectures. On the south side of the first floor is the alumni library room, containing at present three thousand volumes, but with room for indefinite expansion. A number of pictures of eminent alumni have been placed on the side walls, and the alumni records will eventually be stored here.

The second and third floors of the annex are used for the large assembly hall, 80 by 144 feet, with a gallery on the east side, and with a total seating capacity of 1,750. This hall is the pride of the school. As a part of the dedication exercises, there was presented to the school a series of eight portraits of all of the presidents of the school, several being painted by artists who were students under the men whom they thus portrayed. Two classes presented heroic casts of classical subjects, which have been placed on the stage. But the chief interest centered in the memorial window to Edward T. Steel, formerly president of the board of public education of Philadelphia, presented by members of his family. This window was prepared by Tiffany & Co., and contains twelve allegorical pictures, arranged in three lancet windows and representing astronomy, instruction, wood-carving, recreation, sewing, painting, chemistry, singing, cooking, studying, forging, and kindergartens. The dimensions are 20 by 14 feet, and the inscription reads: "In memory of the love Edward T. Steel bore the children of Philadelphia."

In the speech of presentation, Hon. Hampton L. Carson, who has just been appointed attorney general of Pennsylvania, thus eloquently explained the allegory:

The beautiful window which has just been unveiled is the gift of loving hearts in memory of a husband and a father. The pious wish of years has at last been fulfilled, and a suitable memorial is now erected which will perpetuate the name, the services, and the fame of one who devoted the best years of his life and all his dying strength to the cause of education. You observe that the window is divided into twelve panels; and, taking the middle row, you will notice at the top that the sowing of the seeds of knowledge is typified by the sower sowing his seed. Immediately below that is the suggestion that, just as the seed is sown, there are certain periods when there must necessarily be recruited the forces of the body as well as of the mind; and in that beautiful group of children about a May-pole we find the thought and the suggestion of recreation. Below that, under the inspiration and the suggestion of music, you have the infant soul lifted up and the thought

"Nearer, my God, to Thee!

Angels beckon me"

from these lutes and pipes and tabors which suggest the music of child-life; and below that, after recreation and exaltation of spirit have each contributed

their part, you have children in hours of sober and serious devotion to duty, preparing their toil in the hours of study. The remaining panels are suggestive of science, of art, and of the useful crafts which play so prominent a part in human life; astronomy typifying the exalted studies which would sweep the universe and the stars; then to that—which was needed—a deeper thought on the part of him whose memory is there commemorated, you have in the work of the sub-primary school or the kindergarten the children engaged in the art of sewing; below that the art of painting; and below that again the useful arts of instruction in cooking. On the right-hand upper corner of the window you have that of wood-carving; and if the light suffices to suggest, you will find the young artisan bending over his block of wood; and under his skilful touch the features of a child's face appear suggestive, indeed, of that thought which, whether expressed by Addison the essayist, or whether defined as a simple and practical expression in the thought which burned and dwelt in the soul of Mr. Steel—that out of a child's life, out of an unformed mass of characteristics yet undeveloped—the skilful hand applied under the inspiration of a godlike sense of duty to the child and to the state—you can have developed those angelic qualities of childhood which in time will ripen into useful and noble manhood. Below that you have again the children in the kindergarten; and then again art and science typified by chemistry; and immediately below that in the right-hand, lowest panel the art of forging, or that which Mr. Steel felt to be so important, the matter of manual training. In other words, that window, glowing in the sunlight and representing, as though by a jeweled crown, the long years of patient intelligence and conscientious labor which this president of the board of education bestowed upon the duties of his office—child-life in school.

The lighting of the auditorium is effected largely by means of between 400 and 500 lights placed back of a cornice near the ceiling and running entirely around the room. The lights are provided with parabolic reflectors so arranged that the light is thrown out without the lamp being seen from the auditorium floor.

The stage is provided with footlights and procenium arc lights, both being arranged so as to be concealed from in front of the stage, the light being thrown directly on the stage. All the lighting in the auditorium is controlled from a switchboard located in a room adjoining the stage. This switchboard is of highly polished, white Italian marble and has mounted on it all the lights for the auditorium lighting, together with the controlling levers for the dimmers. A full set of dimmers is provided for dimming all the lights in the auditorium. The whole

switchboard is enclosed in a quartered-oak cabinet, arranged with sliding front and plate-glass panels.

The fourth floor of the annex contains the gymnasium, of the same dimensions as the assembly hall, and rising to a height of forty feet. This has been elaborately equipped by the Narragansett Machine Co., and its use is anticipated with much delight by the students of the school.

This, then, is the provision which the city of Philadelphia has made for the higher education of its young men. With traditions so inspiring, with an outlook so full of generous promise, secure in the loyalty of its alumni and in the appreciation of the community which supports it, surely this old school may look forward to better days and even more useful work than in its notable past.

FRANKLIN SPENCER EDMONDS.

CENTRAL HIGH SCHOOL,
Philadelphia.